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April 12, 2023

Sherri L. Golden
Secretary of the Board
44 South Clinton Ave., 1st Floor
PO Box 350
Trenton, NJ 08625-0350

**RE: Docket No. QO21010085 - IN THE MATTER OF MODERNIZING NEW JERSEY'S
INTERCONNECTION RULES, PROCESSES, AND METRICS**

Dear Secretary Golden,

Thank you for the opportunity to comment in the above proceeding. BlueWave appreciates the Board's commitment to stakeholder engagement as it seeks to improve New Jersey's interconnection procedures and modernize its electric grid. These efforts will be critical to reaching our clean energy goals and ensuring reliability across the state and region in the face of a changing climate.

BlueWave's vision is to protect our planet by transforming access to renewable energy. As a pioneering solar developer, BlueWave has developed and built more than 150 MW of solar projects to date. As built, these projects collectively generate enough solar energy to avoid more than 144,000 metric tons of carbon emissions annually. A certified B Corp, BlueWave has received national recognition for its work to protect the planet, including being named the Clean Energy Company of the Year in 2018 by the Northeast Clean Energy Council, one of the top 100 Impact Companies in the United States for each of the last four years as rated by Real Leaders Magazine, and a leading growth company by Inc. Magazine and the Boston Business Journal.

BlueWave submits the following comments in response to the notice for comment on proposed rule changes that would implement short-to medium-term improvements to New Jersey's interconnection process. We have provided this feedback in the context of New Jersey's Energy Master Plan, which sets the goal of powering our state with 100% clean energy by 2050.¹ The plan determined that New Jersey could most cost-effectively meet its electricity demand by building 32 GW of in-state solar, 11 GW of offshore wind, and 9 GW of storage. In order to connect these critical resources to the grid, we must greatly improve the costs and timelines currently slowing down the interconnection process.

§ 14:8 - 4.2 Net Metering

BlueWave has no comments in response to this section.

¹https://nj.gov/emp/docs/pdf/2020_NJBPU_EMP.pdf

§ 14:8 - 5.1 Interconnection Definitions

BlueWave proposes the following additions to the definitions in this section:

- *Export capacity*: the maximum power output (AC) of a Customer-generator's facility, specified by the Customer-generator in the interconnection application, across the Point of Common Coupling to the EDC's electric power system. The export capacity defines the upper limit of power exported from the site to the EDC's electric power system, and may be less than the continuous power rating.
 - This definition will clarify that interconnection applications are evaluated in AC rather than DC, as we have justified in below sections.
- *In-kind modification*: a change to any of (1) the customer side DC equipment, (2) the inverters that does not increase the kW and kVA export capacity (and resulting in no change to the AC export capability, voltage profile, or utility equipment thermal ratings), (3) relays/reclosers that do not alter trip settings, (4) transformer changes that do not alter the MVA rating, primary voltage, or primary winding, (5) equivalent change to AC fuses, or (6) equivalent change to the grounding configuration.
- *Major system modification*: a change to the Customer-generator's facility design that would have an adverse impact on other customers in queue or would modify the fundamental design intent of the original application such that a majority of the engineering analyses would need to be re-performed.
- *Minor system modification*: a change to the Customer-generator's facility design including but not limited to in-kind equipment modifications, recloser settings adjustments, upgrading a transformer, or decreasing the AC export capacity which does not impact other customers in queue.
- *Queue*: a list depicting the current status of requests for the interconnection of new or uprated (increased capacity) generating facilities, in the order of the application submission.²

§ 14:8 - 5.2 General Interconnection Provisions

BlueWave applauds the Board for proposing many changes that will improve interconnection procedures and bring New Jersey in line with national best practices. One major change, however, should be to reference all project size thresholds to AC instead of DC as referenced throughout the proposed rules. Upon evaluating an interconnection application, the EDC only has access to information in front of the inverter, and should only be making determinations based on this measurement in AC. While the DC size of a project may be larger or smaller than the AC size, only the AC size is a limiter to the grid and defines a project's export capacity. We describe specific sections where this clarification is particularly important below.

- Section (b). The proposed language leaves open the possibility that an inverter could act as an export limiting device, but is not specific enough to define the parameters around this use case. Rather than creating an arbitrary threshold in this way, we recommend simply reading all capacity in AC.

² The EDCs in Maine file monthly queue updates with the Public Utilities Commission. For example, see Case Number 2020-00211 here: <https://mpuc-cms.maine.gov/CQM.Public.WebUI/Common/CaseMaster.aspx?CaseNumber=2020-00211>

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- Section (c). Coupled energy storage systems (ESS) can be AC- or DC- coupled, depending on the use case. The EDC should differentiate between these coupling scenarios when determining the level of study for an interconnection application. In either case, the EDCs should continue to evaluate the AC limit to the grid, not the DC capacity.
- Section (c). All DC-coupled storage size changes proposed by a developer after submitting an interconnection application should be considered an in-kind change and allowed at any point in the interconnection process.

One proposed change is the creation and standardization of an online portal system with automated features. As we have detailed in previous comments, BlueWave recommends that the portal should allow two-way communication between the EDCs and developers for project-specific items as well as general queries and portal issues. There should also be a defined procedure for applicants to give feedback on the portal, as issues are likely to arise with the implementation of a new system. An example of an EDC with exemplary portal communications is National Grid in Massachusetts and New York, which has a chatter function on each project page that allows conversation threads between the EDC, applicant, and other parties that may be granted access to the project portal.³

Another portal functionality that will increase efficiency is the ability to make payments online. Compared to mailing checks, online payments allow for better tracking of payment deadlines and reduce the likelihood that a payment is lost or misallocated.

In Section (n), the Board proposes that applicants can request that the EDC take into account anticipated future load changes that may impact a distributed generation's place on the grid. This proposal will help to plan for future electrification and will better inform developers' expectations about grid capacity and performance. In addition to providing this project-specific analysis, the EDCs should make this information publicly available and include timelines to implementation of the detailed load changes.

As we have detailed in § 14:8 - 5.1 above, establishing a definition for and processes governing the interconnection queue is critical for efficiently and transparently managing distributed generation interconnection applications. In addition to the definition proposed above, we recommend including language similar to that in Maine's Chapter 324, which governs distributed generation interconnection:⁴

"The Queue Position of each Interconnection Request will be used to determine the order of interconnection review in those circumstances where one pending interconnection application could affect the analysis of other pending interconnection applications as

³ The National Grid portal can be found at <https://gridforce.my.site.com/s/homepage>. In addition, National Grid provides links to other resources at <https://gridforce.my.site.com/s/ma-process>. These two landing pages represent a clear central hub for everything related to interconnecting DG, including portal and process improvements that are communicated regularly.

⁴ Maine General Law, Chapter 324 can be found here: <https://www.maine.gov/mpuc/regulated-utilities/electricity/renewable-programs/developer-resources>

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well as any cost responsibility for the facilities necessary to accommodate the generator interconnection. Queue Position is based on the date of receipt of a completed application.”

We provide further comment on procedures for managing Level 2 and 3 applications in the below sections. Our high-level recommendations for queue management are as follows:

- It is critical to limit each step of the interconnection review to specific timelines from both the EDC and developer perspectives. Maintaining strict time frames for each step in the process will keep the queue moving while prioritizing projects according to their progress rather than their size.
- In-kind modifications may be made at a developer’s request without loss of queue position. See the definition of in-kind modification in § 14:8 - 5.1 above. Project development is long and equipment availability may change, thus projects should be able to undergo in-kind modifications without requiring major restudy or loss of queue position, so long as the changes made do not have negative impacts to subsequent projects in queue. If a project elects to make a major system modification after its interconnection application is filed, it should lose its queue position.
- To avoid prolonged queue delays, failure to meet any of the established deadlines should result in loss of queue position. If a project is in jeopardy of losing its queue position, the EDCs should provide adequate notice to the interconnecting customer that includes pending deadlines and what actions are needed for the project to remain in queue.
- We recommend taking steps now to ensure that adequate amounts of DG can be interconnected to New Jersey’s distribution system without triggering Affected System Operator (ASO) studies. Should New Jersey interconnections become subject to ASO studies in the future, we recommend that the EDC not issue an IA until a project’s I39 approval is issued. While ASO studies are the purview of PJM, this step ensures that ASO studies are completed in a timely manner along with the rest of the interconnection procedures.

Above all, BlueWave urges the Board to decouple the interconnection process from capacity awards in the Solar Successor Incentive (SuSI) program. This proposal was recently introduced in the straw proposal for the community solar permanent program and should be implemented in the grid modernization proceeding as well.⁵ As developers wait for capacity to become available for enrollment in the community solar permanent program or the dual-use pilot program, they are currently unable to progress projects through the interconnection queue. Depending on the size and complexity of a project, as well as quantity of queued applications on a circuit, the interconnection study process may take several months to complete from the time of application. Progressing applications independent of SuSI program capacity awards will allow for more projects to come online in an efficient manner. As a result, the Board may begin

⁵ The Community Solar Permanent Program Straw Proposal can be found here:
https://publicaccess.bpu.state.nj.us/CaseSummary.aspx?case_id=2111043

to see more mature and successful projects progress through the incentive programs, and less time delay between a project's capacity award and its commercial operation date.

§ 14:8 - 5.3 Certification of Customer-Generator Interconnection Equipment

BlueWave has no comments in response to this section.

§ 14:8 - 5.4 Level 1 Interconnection Review

BlueWave reiterates in response to this section that the capacity for a project's level of review should be measured in AC rather than DC.

§ 14:8 - 5.5 Level 2 Interconnection Review

BlueWave reiterates in response to this section that the capacity for a project's level of review should be measured in AC rather than DC.

The definition proposed for Level 2 projects covers a wide range of project sizes. In other states, BlueWave has experienced a twofold problem with the definition of Level 2 projects. At the higher end of project size (approaching 2MW), we would expect to see significant impacts on a circuit. For this reason, it would be appropriate for Level 2 projects to be considered in the same queue as Level 3 projects and evaluated accordingly. However, this procedure would create lengthy queueing and study timelines for smaller Level 2 projects (under 200kW) that are unlikely to cause significant grid impacts and could benefit from an expedited review process. To deal with this complex problem, BlueWave suggests two distinct options:

- A: Amend the definition of Level 2 projects to include only those below 200kW. A set-aside of capacity on each feeder and transformer can be reserved for these projects in order to assure that moving them more quickly through the queue will not impact larger applications currently being studied. We recommend reserving 1MW per feeder or ~10% of capacity per transformer.
- B: Do not change the definition of Level 2 projects and maintain a queue in order of application for all Level 2 and 3 projects. While an individual Level 2 project's review time may not change, they will have to wait until all applications ahead in queue (which may include lengthy Level 3 reviews) are complete.

§ 14:8 - 5.6 Level 3 Interconnection Review

BlueWave reiterates in response to this section that the capacity for a project's level of review should be measured in AC rather than DC. We support many of the proposed rules in this section, which should create more clarity and structure around the timelines governing Level 3 projects. In particular, the PAVE process will provide detailed electrical information on the circuit and substation for developers prior to submitting an application. Such information will reduce the number of speculative projects and help developers make informed decisions on where to interconnect.

During the Level 3 study phase, EDCs should provide mitigations after each of the System impact study, Facilities study, and any additional studies required by the EDC. This will give the

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Applicant the opportunity to make minor modifications to their system design to minimize or avoid adverse impacts to the EPS and limits upgrade costs.

With regards to the cost of upgrades that Level 3 projects may require, the applicant should only be responsible for up to 25% of the original estimate given. The EDCs should be responsible for additional costs in excess of this amount, as is best practice in other markets.

§ 14:8 - 5.7 Interconnection Fees

BlueWave agrees that fees are essential to managing the interconnection application process and discouraging speculative projects. We repeat the same recommendation for clarity that the nameplate rating of export capacity should be measured in AC. In addition, BlueWave recommends that the application fee for Level 3 projects be slightly higher to represent a more robust barrier to entry. An appropriate fee would be \$300 + \$4.50/kW with a cap of \$7500.

§ 14:8 - 5.8 Testing, Maintenance and Inspection After Interconnection Approval

BlueWave has no comments in response to this section.

§ 14:8 - 5.9 Interconnection Reporting Requirements for EDCs

It is critical that the EDCs provide transparent, frequent reporting on interconnections within their territories. In addition, identifying areas that could benefit from proactive upgrades and higher DG penetration will be a critical part of systematic grid planning, as detailed in section § 14:8 - 5.12 below. BlueWave recommends that the number of applications, along with the type of generation, size, and stage (pre-IA, post-IA, or withdrawn) of all applications should be included in the queues that EDCs share with Level 2 and 3 customers, the quarterly interconnection reports sent to the Board, and the monthly, public queue reporting contemplated in section (e).

§ 14:8 - 5.10 Pre-Application Verification/Evaluation Process

BlueWave supports implementing a standardized pre-application process to be used across all EDC territories and agrees with most of the specifications detailed in the proposed rules. We recommend that all pre-applications additionally list the number of projects ahead in queue. By including this information alongside the aggregated MW of queued capacity, developers will receive a full picture of the factors impacting study timelines.

§ 14:8 - 5.11 Hosting Capacity Maps

Hosting capacity maps help developers make decisions about siting and ensure more viable projects are entering the queue. The information shared on these maps helps drive development and related upgrades to areas where it is needed most, creating efficiencies for both developers and the EDC departments that must evaluate interconnection applications. BlueWave supports the bulk of the proposed rules related to hosting capacity maps, but provides the following recommendations to ensure their most effective use:

- Include both voltage and amperage for each circuit.
- Indicate on a circuit whether or not there is equipment or sections of a feeder that may limit the ability for additional projects to interconnect.

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- If a substation has more than one transformer, indicate the capacity of each and which feeders they connect to.
- Update maps whenever there is a significant change (> 1 MW or 10% of feeder capacity) on the system, which may occur more frequently than quarterly.

§ 14:8 - 5.12 Proactive System Planning

Proactive system planning is essential for maintaining a safe and reliable grid while rising to meet the needs of increased electrification and clean energy deployment. Thoughtful and transparent planning processes have the potential to save time and money for the clean energy industry, the electric utilities, and New Jersey ratepayers.

Proactive system planning that includes predictable \$/kW costs can drive renewable generation to desired areas while avoiding high upgrade costs and lengthy study timelines with unpredictable (and often untenable) results. System plans should be drafted through a public stakeholder process in which industry representatives, developers, and residents are able to comment on proposed upgrades and system costs.

As BlueWave has detailed in earlier comments, we strongly support moving away from the historical cost causation model and towards cost sharing procedures that will most efficiently and equitably upgrade shared infrastructure.

§ 14:8 - 5.13 Dispute Resolution

Concrete and transparent dispute resolution processes are a best practice for managing relationships between utilities and customers. BlueWave supports the creation of an ombudsperson as well as the outlined proposal for both informal and formal dispute resolution processes. We recommend amending the word “ombudsman” throughout the rules to instead specify an “ombudsperson.” This gender-neutral language upholds respect and dignity for all who are participating in New Jersey’s interconnection processes.

Thank you for the opportunity to submit comments in this proceeding. We applaud the Board’s tireless work towards a just and equitable clean energy economy in New Jersey. The recommendations we have provided, based on best practices from across the country, will facilitate the interconnection of much-needed distributed resources and expedite our achievement of the goals laid out in Governor Murphy’s Energy Master Plan. Please do not hesitate to reach out to us with any questions.

Sincerely,

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